



SDI Review Form 1.6

Journal Name:	Chemical Science International Journal
Manuscript Number:	Ms_CSIJ_39902
Title of the Manuscript:	Removal of Nickel from plating wastewater by using PG-M
Type of the Article	Original Research Article

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)



SDI Review Form 1.6

PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Compulsory REVISION comments	I enjoyed reviewing this manuscript. The authors claimed that they report: Removal of Nickel from plating waste water by using PG-M. As written, they did. The paper has been written adequately. However, the following remarks should be taken into consideration. 1. In the second paragraph (introduction), what is the value of the toxic dose of nickel? 2. The author deliberately omitted the characterization, structure and physicochemical properties of the flocculant biodegradable polymer (PG) and magnetic particles Fe_3O_4? 3. Is PG-M used with or without prior treatment? 4. How did you collect and preserve samples of nickel solutions used throughout this study? 5. In the experimental part (Reagents and chemicals) the author must define only the means and methods of analysis of all the elements presented in Table 1. 6. The following text should be transferred to the results and discussion section under the title Chemical Analysis. (The initial concentration of Ni^{2+} ions was the highest than other ions such as Cu, Zn, Cd, Pb, and Cr. Furthermore, according to National Technical Regulation on Industrial Wastewater in Vietnam, the final concentration of Ni^{2+} ions after treatment was ranging from 0.2 - 0.5 mg/L¹⁷. Therefore, it is necessary to remove Ni^{2+} ions from wastewater). also table 1 7. The author must imperatively give the comparison of the absorption capacities of this material (PG-M) compared to others materials of the same magnetic natures. 8. Is it possible to explain the adsorption mechanism of ions on this composite (PG-M)?	1. In my opinion, depends on the age, sexual, weight and nickel exposure of human, the value of the toxic dose of nickel is different. As the previous articles, the value of nickel concentration in drinking water is less than 0.01 mg/L, it is similar with the value in The 4th Guidelines for Drinking water Quality of WHO in 2011. And in which, the TDI of nickel in empty stomach is 12µg/kg body weight. Although there is a lack of evidence of a carcinogenic risk from oral exposure to nickel, but IARC (1990) concluded that nickel compounds are carcinogenic to humans (Group 1) and metallic nickel is possibly carcinogenic to humans (Group 2B). 2. In the previous paper, the characterization, structure and physicochemical properties of the flocculant biodegradable polymer (PG) and magnetic particles Fe_3O_4 were presented, so in this paper, it's no need to emphasize this part. We want to introduce the ability of Ni^{2+} treatment by using PG-M 3. Corrected 4. The nickel solutions used in the study was wastewater of Shower and Bathroom Equipment Manufactory - Branch Lixil Viet Nam Co. Ltd in Quang Nam Province, Viet Nam. It was collected from the nickel plating wastewater tank before treatment and added HNO_3 0.01M after that to stabilize nickel ions in solutions and cooled in fridge throughout the study at 4⁰C. 5. The nickel concentration was determined by AAS and shown in table 1. 6. Corrected. 7. I think no need to compare this material with another materials in this paper, because the purpose of this paper is “Removal of Nickel from plating wastewater by using PG-M” 8. The adsorption mechanism of Ni^{2+} ions on PG-M: PG-M is made from Fe_3O_4 oxide and glutamic acid thus many H^+ ions of –COOH functional groups present in PG-M structure. This is an important group for the chemical reaction of cationic exchange, so that H^+ ion will be replaced by Ni^{2+} ion on –COOH groups. Furthermore, nickel hydroxide are formed at high pH in the solution will be bonded to the surface of PG-M polymer system due to hydrogen linked between H^+ ion of –COOH groups.
Minor REVISION comments	• Add references for sections (adsorption studies and recovery studies) • Put the legend of the figures inside the graph • correct the following references: [12] and [17]	• Added Acknowledment. • Corrected axes position of figure 5.
Optional/General comments	-the title of the paper reflect sufficiently and clearly the contents -the abstract contain a sufficient summary of the paper's contents to be useful and informative -the illustrations and tables all necessary and acceptable -the length of the paper appropriate for the content -the interpretations and conclusions sound are justifiable - The references are appropriate. - the English acceptable in this paper	